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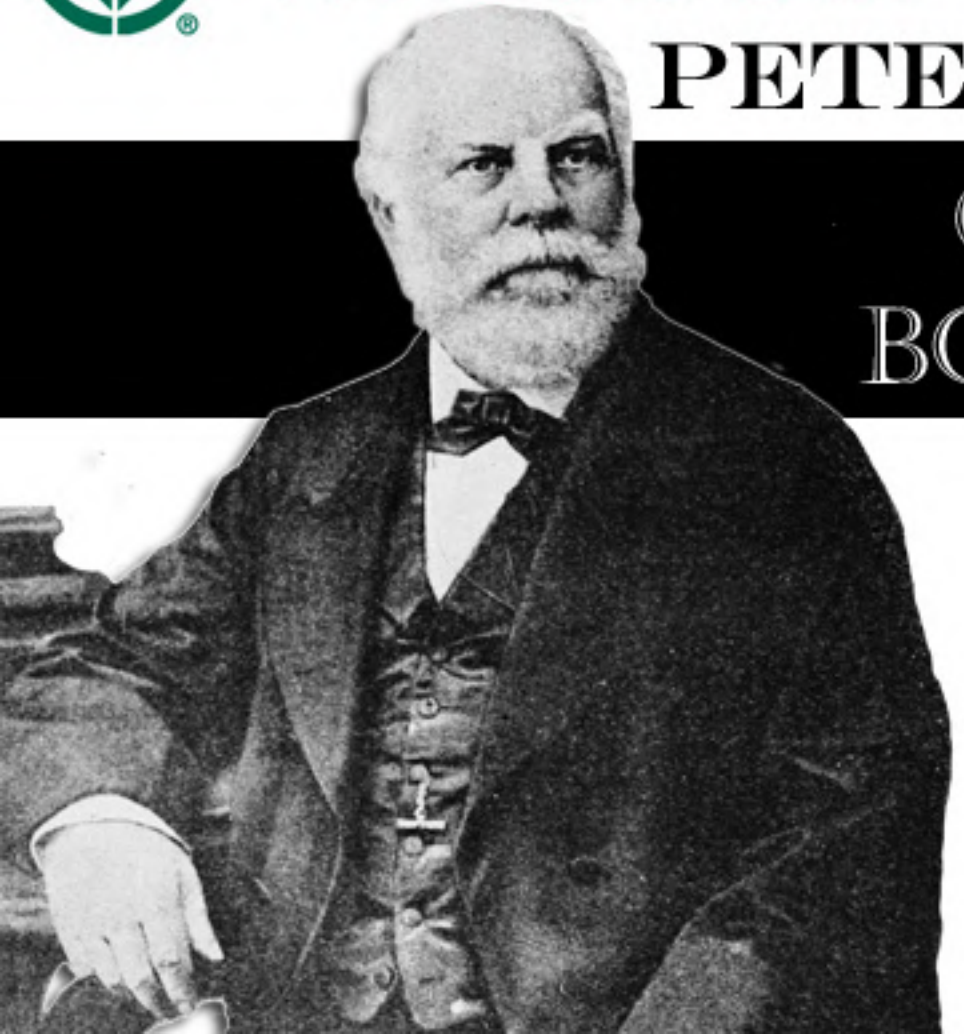

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HARVARD MILLS

Loranthaceæ

Collected 1873 in northern Arizona by J K Gilbert of Lieut Wheeler's Exploring Expedition, west of 100 ½ Mer'd

Phoradendron flavescens, Nutt. The collection contains a number of speriments which represent two distinct forms, both different from the south eastern representative of the species. The first may be characterized as Var. macrophyllum, with large (often 1/2 or even 2 inches long) orbicular - obovate glabrous leaves, only in the young state with an evanescent pubescence; ~~they are often an inch long, consisti~~ male spikes often an inch long, consisting of 4 or 5 joints, each with 10-40 flowers. They grow on soft woods, such as Ash, Willow, and Sapindus, on the Gila and Bonita rivers. (Nos 102. 104. 105. 106.)

The other is Var. orbiculatum (Ph. orbiculatum Engelm. in N. Pend. p. 59) with smaller (1/2 - 3/4 inches long) rounded pubescent leaves. It is always found on oaks, in Arkansas, Texas, New Mexico, California and Arizona (Nos 107. 114 & are from the mountains near Camp Apache). Nearly allied to this is the smaller-leaved and more tomentose var. tomentosum (Viscum tomentosum DC) growing on Mimosae in Northern Mexico, and var. villosum (V. villosum, Nutt. ~~of DC~~ on oaks in Oregon, with small narrow leaves.

Phoradendron Californicum, Nutt. N. Gambel p. 185. on Prosopis glandulosa (No 103 & 113); slender, much branching, leafless stems 1-2 feet long, bearing numerous short, opposite spikes, each consisting mostly of 2, rarely of 1 or 3 joints, the lower one often with 6, the others always with ~~two~~ 2 flowers. - It has only been observed in Arizona and Southern California, and always on Mimoseæ.

Phoradendron juniperinum, Engelm. Pl. Fendl. p. 58. always on Juniperus Virginiana, occidentalis and Californica. (No 101. 110. 111. 115). The short joints are so fragile that the speriments easily break up.

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Arceuthobium robustum, Engelm. M. Tend. 59, stout, brown or dark olive coloured, with larger fruit, flowering in summer; always on Pinus ponderosa; from New Mexico northward to Colorado and westward to Arizona; No 108. — Tender's 283, afterwards described by me, M. Lindh. 2. 214, note, under the erroneous name of *A. cryptopodum*, is the same in an immature state. The mature fruit of all Arceuthobiums is borne on an exsert and recurved pedunle, or *campylopodous*; in an earlier stage they are all *cryptopodous*, i.e. the short erect peduncle is concealed under the bract.

Arceuthobium divaricatum, Engelm. Arceuth. ined. *A. gracile* Engelm. M. Tend. 59: light olive yellow, slender, with smaller flowers and fruit; flowering in September. — The original form has been found only on Nut pines (*P. edulis* and *P. monophylla*) from New Mexico to Southern Utah and Arizona (No. 116). Both the following varieties have been discovered in this expedition in the Sierra Blanca on Coniferæ, which heretofore had not yet furnished any Loranthaceæ. They differ somewhat from the typical form, but for the present, and until more is known about them, must be appended to this species.

Var. *microcarpum*: slender, and with smaller fruit, on *Abies Engelmanni* (No. 100 & 112) in the Sierra Blanca of Northeastern Arizona. We thus also learn that this ~~Conifer~~ Spruce so well developed in the Rocky Mountains further north (Colorado to Montana), also occurs in Northern Arizona; it also occurs on the Cascades of Oregon (E. Hall, Dufur)

Var. *intermedium*: as slender as the species, but with straighter and more erect branches and with fruit almost as large as that of *A. robustum*. — Found on *Abies Douglasii* (No 109).

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Dec 26 1874

Loranthaceae

collected by J. H Gilbert in Arizona of Lieut Wheeler's Expl. Expedition west of the 100th Meridian.

Phoradendron flavescens Nutt The collection contains a number of specimens which represent two distinct forms both different from the eastern (south) representative of the species. One may be characterized as Var. microphyllum with large glabrous leaves, which only in the young state show an evanescent pubescence; they are often 1/4 to even 2 inches long, and male spikes often one inch long or more, consisting of 4 or 5 joints, each with 10 to 40 flowers. They grow on soft woods, such as the ash and the willow and the Sapindus, on the Gila and the Bonito Rivers. (Nos 102. 104. 105 106)

The other is var orbiculatum (Ph. orbiculatum Engelm in Plant Fendl. p. 59. note) with (rounded thicker) rounded persistent leaves (1/2 - 3/4 inches long); It (always) has been collected on Oaks - in Arkansas Texas New Mexico & (Calif.) Arizona (Nos 107. 114 are from the mountains near Camp Apache). Nearly allied to this is the smaller leaved and more tomentose Var tomentosum (V. tomentosum DC.) growing on Mimoseae in Northern Mexico and var villosum (V. villosum Nutt) of Oregon on oaks with small narrow leaves.

Phoradendron Californicum Nutt N. Gamb. p. 185 on Prosopis glandulosa (Nos 103 & 113.); leafless much branched slender stems, 1 - 2 feet long, bearing numerous opposite short spikes each mostly with 2, rarely with 1 or 3 joints, the lower one often with 6 the others always with 2 flowers. It has only been observed in Arizona & southern California and always on Mimoseae.

Phor juniperinum Engelm in Pl. Fendl p. 58 always on Juniperus Virginiana, occidentalis in California (Nos 101. 110. 111. 115) joints very fragile, and so that the specimens easily break up.

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(with large leaves) (flowers in summer brown or dark olive colored)

Arcenthobium robustum Engelm. ined. H. Fed. 59 ~~a stout plant~~, always on *Pinus ponderosa*; ~~male~~ from New Mexico northward to Colorado & westward to Arizona (N. No 108.) Fendler No 283 is the same afterwards described & figured by A. L. Th. 2. 214 note under the erroneous name of *A. cryptopodum*, is the same in an immature state. The mature fruit of all *Arcenthobium* is ~~Ca~~ campylopodous & is, even on an exsert recurved pedicle.

Arcenthobium divaricatum Engelm. ~~in~~ Bot. Gazette, 1882 ~~Fl.~~ Fed. S. G. — *A. cryptopodum* Eng. in part — slight olive yellow, slender, with small fl. & fr., flowers in September — The original form has been found only by Prof. Bot. Pinus (*P. edulis* & *P. monophylla*) in New Mexico to South Utah & Arizona (No 116) ~~but the following, which I can only distinguish as varieties that~~ The two following forms have been found by their expeditions in the Sierra Blanca on Coniferae, which these far Rocky not yet furnished any botanist, viz. *Abies Douglasii*. They differ somewhat from the typical form, but for the present are until I am more fully known about them, must be attached to this species.

var *microcarpum* slender, and with smaller fruit, on *Abies Engelmanni* (No 100 & 112) in the Sierra Blanca of NE Arizona. We also learn that this Conifer, so well developed in the Rocky Mountains further north in Colorado to Montana, also occurs in Northern Arizona, as it has also been found on the Cascades of Oregon

Var *intermedium* as slender as the type, but with more erect branches and with fruit almost as large as that of *A. robustum*. — found on *Abies Douglasii* (No 109)

Eichler Loranthaceae Brasilienses.

p. 3. Ovarium inferum massam solidam homogeneam refert
ovulo nempe unico axili atropo basilari erecto tegumento
carente cum loculi unici parietibus coalito — i — —
Stylus in fl. masc ejusdem generis ♀ longitudine, tenuior
et stigmate capitellato ♀ ovario deciduo v. abortivo.
Fructus bacca calyce persistente coronata, vestigiis
partium delapsarum cicatrisato-umbilicata.
Pericarpium in strata 3 dissiniilaria: epicarpium
coriaceum vel carnosum, mesocarpium viscaceum
(saepe aere solum, super caulibus, evolutum)
endocarpium membranaceum vel subcoriaceum
semini testam saepe mentiturn, aere nunc in
vestimen productum, nunc cum mesocarpio in
viscinum mutatum.
Semen aut e nudo embryone aut ex embryone
et endospermio constat (testa, cum ovulum integumentis careat, nulla). Endospermium
carnosum cum embryone amylo scatens

Viscaceae

p. 93 fructus baccatus, pericarpio ut in baccis Loranthearum
conformato, nisi mesocarpium saepius e filis
contextum quae haustoria in interiorem viscaceam
confluunt.
Semen endospermio carnoso vel corneo
raro s. rubrullo, rarissime cauliculo
subterminali ex endospermio exserto; cotyledonibus
liberis, applicatis vel subdivergentibus.

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A W Eichler, Loranthaceae Brasilienses 1868

Gaudem de physiologie et morphologie

p. 6. Loranthaceae terrestres probabiliter juventute radicibus alienis adnexae et in iis parasitice, postea demum autotrophae evadunt, ut multae Scutellarieae Rhinanthoideae, aliae.

Plantae semiparasiticae nunquandae (Eichler) quae foliis squamaeve viridibus habent nec chlorophyllo omnino carent. Hae stirpes, ideo, nutrimentum assimilant. Demonstrandum est (Bochm über das Hyaragen des Mistel, Sitzungsberichte der Kais. Acad. Wien 52 p. 90) Loranthaceae e ramo cui insident, eum succum tantum haurire qui nondum perfecte assimilatus in ligno descens vehitur, alteram autem operis assimilatorii partem, quae foliis vel partis viridibus debetur, in ipsas suscipere. Loranthus igitur ad stirpem nutritam se habet uti tuberculum [Pfropfreis, Greff] ad ramum, cuilibet cui insitus est.

Plantae perfecte parasitae (Orobanchaceae, Balanophoreae [Cuscutae] etc.) chlorophyllo carent, et succum perfecte assimilatum e stirpe nutrice haurient.

p. 7. Loranthaceae Cryptogamas stirpes, Monocotyleas et Dicotyleas annuas fugiunt. Solum in Dicotyleis perennantibus [lignosis?] et Coniferis reperiuntur. Sporis suis coccis vaccinis non prorsus abhorrent.

Nonnullae in speciebus diversissimis vivunt [Viscum album, Rhododendron flavescens] aliae solum in paucis affinibus (Lor. europ. in Quercu & Castanea) s. singulis speciebus (Phrygilanthus aphyllus in Cereo peruviano)

Generatio Aves, praesertim turdi baccas avide comedunt, solum autem pericardium carnosum concoquunt et semen cum viscino adhaerente revomunt vel excrementis abjiciunt.

p. 8. Primum caulinulus elongatus, viscidum penetrat et verticalis axem rami nutritii petit; apice intumescit, ramo apprimitur, cum eo arcte connascitur, perpluvico incremento auctus. Postea

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e medio processum plus minus acutum protrudit qui
corticem rami nutritoris sensim perforat et usque ad
Lignum procedit. Ubi in discum irregularem supra
lignum dilatatur, quorum intime coalescit, sicut etiam
cum cortice perforato. Haustorium nobis appellabitur, Senker
(germ) Suçoir (gall) Sucker (angl)

Cotyledones in germinatione aut libere expandantur
et plumulam intermediam habent, aut, ubi in embryone
connatae sunt, postea quoque cohaerent et plumulam
e fissura lateralis emittunt (species asiaticae nonnullae Griffith
p. 9. Cotyledones plures — 3–6 — in speciebus nonnullis
Orescunt nonnullae Loranthaceae ramum decorsumve
aeque bene (verum album) ubi pagina foliorum aequalis,
Non constat ubi eae species quae paginam alternam stomato-
phoram alteram eporosam exhibent, orescunt?

In multis Loranthaceis praesertim Viscoidis ex haustorio
primario processus lateralis origine ducunt qui sub
cortice rami nutritoris prorepunt, hunc modo annulatim
cingentes, modo undique currentes, ubi radium medullarem
tangunt haustra in eum immittunt. Radii medullares,
sic invasi, crescere desinunt, lignum autem et haustrum
augentur, et hoc modo plantae parasitae basis in ligno
undique sepulta videtur. (Schacht Viscum album in Pino annulis
50 concentricum vidit)

Gemmae adventitiae passim ex haustris oriundi.

Haustorium non radix, cui tamen affine; Odallorhiza Eichler
(sucking root)

p. 10 Odallorhizae in genibasdam speciebus extra corticem formatae

pag 11. de Caule et foliis

Structuram exposuerunt:

Unger, Beitr. z. Kenntn. der parasit. Pfl. Annalen des Wiener Mus. II. p. 16

Schacht, Schmarotzer & deren Verhältn. zur Nährpflanze, in Beitr. z. Anat & Physiol. der Pflanze

Karsten, Beitr. z. Entwicklungsgeschichte d. Loranthaceen in Bot. Zeitg. 1852 no 18–21

Chatin, Anatomie comparée des végétaux p. 417 et tab 74–90

Nitra, über die Anheftungsweise einiger Parasiten an ihre Nährpflanze

Harley, on the parasitism of the mistletoe in Linnean Transactions Bot Zeitg. 1861 p. 53. stat

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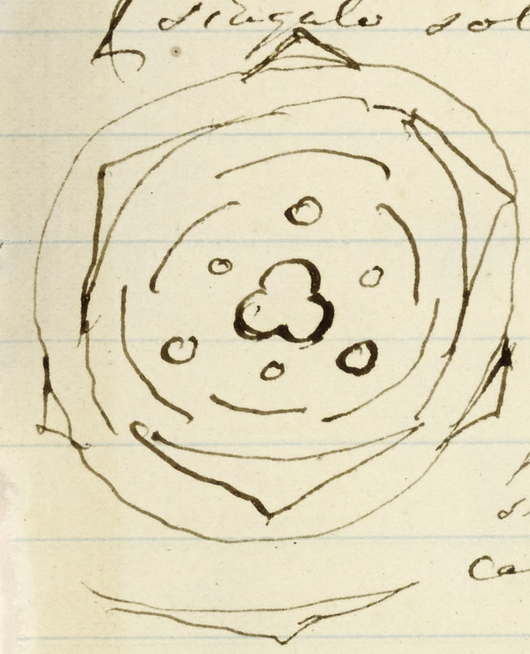
p. 18 Calyx Loranthaceus (ex theoria nostra) e sepalis 3 vel 2 calendibus constat ~~(plerumque~~ sed forma annuli continui pronascitur et urceolum efformat, truncatum s. crenatum dentatumve, illemans rem verticillo petalorum exteriore; ~~Ete et plo~~ typicus e verticillis 6 alternatibus 3 (rarius 2) mus constat: 3 (2) sepala 2×3 (2×2) petala, 2×3 (2×2) stamina et 3 (2) carpidia (Hofmeister)

[singulo solum evoluto?]



Decaisne, memoire sur le developement du pollen de l'ovule et du Gui, Bruxelles 1840

Griffith on the developement of the ovula of Loranthus etc. Transact. Lin Society, 18 pr. 71 et. & 19. p. 171 seq.

Hofmeister, neue Beiträge zur Embryobildung der Phanerogamen I p. 540 seq.

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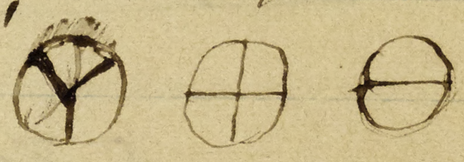
Dendrophthora, Eichler in Mart. Fl. Bras.
fr. 102 not.

Flores ♂♀ ♀ nonnulli, 3 (4-2) meri, glomerati axillares, flores "spurii" Rhondendri.

Vegetativa Rhondendri — stipes supra "aphyllae"
spinae Rhondendri; simplices et compositae, flonibus supra axillaribus solemnibus
ramiserialibus, petalo supari semper summum spectante
ramorum flonibus masculis typo 2×3 — serie 6. Flos ♂
plerumque numerosiores, femineis saepius singuli (semper
supraaxillares)

D. bexfolia flores masculos 2×3 seriatos praebet, bine
transitum ad Rhondendrum exhibet.

Petala ♂floribus 3 mm. $\frac{1}{2}$ 4 mm. $\frac{2}{2}$, 2-mm. $\frac{1}{1}$ ita quae
omnino inversa ac in Arcuthobio ponitur



A foliis squamaeformia ("aphyllae") flores ♂♀ ♀
2×1 seriales, ♀ saepe in serie solitarii.

1. Caulis phyllodineo-compressus, fl. ♂♀ ♀ in serie 4 pluri
1. D. Opuntioides (Urban DC. 284) Arcuthob. Gris.) Mexico

2 caulis 4-angulo-compressus Mexico
2. D. cupulata (Urban DC. 285)

3. caulis compresso-4-alatus spinae moniliformes Mexico
3. D. spinosum (Arcuthob. Griseb. fl. Brit. 192) Wright n. 221.

4 Caulis Terebinthinaceus
4. D. Mancinellae (Arcuthob. Wright. ap Gris.) Wright n. 2646
5 D glauca (Arcuthob. Gris. Wright n. 2651
6. D. Wrightii Eichl. n. sp. Wright n. 223.
7 D Bonariae (Arcuthob. Wright ap Gris) Wright n. 2653
8 D Dominguensis (Urban, Sprung DC. 284 Arcuthob. Griseb.) Wright no 225
9. D. cupressoides (Urban Mex. Arcuthob Griseb — Rhondendr. cupressi
folium Griseb) Wright n. 224. 1254
10. D. gracilis (Urban DC. 285 Arcuthob. Griseb.) ♀ non vidi Eichler
11 D. bicornuta Eichl. n. sp. — Costa Rica, Guatemala et.

B. foliis frondosa; flores ut in A.

1 Monoica flore ♂♀ in eodem articulo mixtis
12 D. leptostachya (Urban DC. 280 V. microstachya Spruce Rhondendr. microst. Gris
Wright n. 2647

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Dendrophthora . cont

2. D. ovata spica ♀ longa laxa, antic 2×1 lin. ♂ 2×10–5-fl

13. D. marmoleja (Viscum Jacq H. 281 non Linn)

C. folia à ovale et sub spicis frondosa . Flores solemniter in utroque sexu 2×1 raro 3-ne (±18) ♂ 2×3 seriati.

1. fol. obovata minora D. ovata

14 D. Gnidachii Eichler (Phoradendron macrostachyum var parvifol. Gris Wright. 2652

2. fol. obovata majora, usque ad 8 lin. Mexico

15 D. Cubensis Eichl. n sp

3 folia ovalia 3–4 lin. longa Cuba

16. D. constricta (Phoradendron constr. Gris. ♀ & Ph. testifolium Gris ♂ Wright 2206 (♀) & 2648 (♂)

4 folia ovalia ad 6-9 lin. longa Cuba

17 D. myrtilloides Eichl (Phoradendron Gris. Viscum Swartz ex Gris. nec V. myrtilloides Spreng.) Wright n. 1253

5 folia obovata-obtusata 6–10.–14 lin. long. Cuba

18 D. buxifolia (Viscum Lam Dict. 280. Phoradendron Gris) flor mas 2–3 seriati Wright. 220. 220 & 219 222. 2649

6 folia late obovata 2-polliaria. Cuba

19 D. grandifolia Eichl n sp. Wright Cuba 218 (a Gnidachii ad Phoradendron tetrastachyum capsulae glandulam adnatae) fl. ♂ ignot.

Flores trifide undique seriati 3 pollices.

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Eichl. p. 54

Phthirusa

I Euphthirusa Flores in terminationibus (raro sine) solitarii, axillares). Bracteolae bracteolaeque sub terminalibus solenniter in cupulam 3 lobam connatae

sect 3. flores 4-meri (raro 5-6) vix pedicellati, glomerati, raro sub solitarii axillares.

6. flores hermaphroditi 4-meri solitarii axillares Ph. clandestina Mart.

p. 55 . 4 Dendropemon Flores solitarii in racemis spicisve bracteis sub flore 3 cupulam cyathif. connatis. Antill.

Phthirusa inconspicua Eichler p. 67 Loranthus inconspicuus Benth Bot Sulph 102 from San Blas is no doubt Greggs plant from Tepic & Mazatlan

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Loranthaceae ÷ Martius Flor Brasiliensis

by A.W. Eichler 1868 fasc 46.-

Dicotyledoneae epigynae, floribus solemniter 6-2-meris; perigonio simplici subcorolliino aut duplici, exteriore calycino saepe rudimentario, interiore corolliino; staminibus corollae (seu perigonii) phyllis numero aequalibus, iis antepositis saepiusque adnatis; stylo unico centrali e disco epigyno; ovulo unico axili atropo basilari erecto, integumento proprio, carne vario 1-locularis pariete connato, sacci amniotici 2-6 instructo fructu baccato, sarcocarpio viscoso; semine saepissime endospermio carnoso, rarius exalbuminoso embryonem nudum referente; embryone axili recto, caudiculo (radicula) supero superficiali vel ex endospermio exserto, cotyledonibus 2 applicatibus raro 3-6 verticillatis. — Frutices virides solemniter super arborum ramos semiparasitici, foliis plerumque oppositis frondosis.

I. Loranthaceae

Perigonium duplex, exterius calycinum saepe rudimentarium interius corolliinum; petala solemniter 6-4

A. Fructus baccatus

I. Semina exalbuminosa flores hermaphroditi, in ternationes (vel biastrum) disposita, singuli magni speciosi 6 petal (5-4) capsula bivalvi fatiscente **Psittacanthus** Mart

II. Semina albuminosa connectivum cum filamento articulatum antherae versatiles; flos ternationum intermedius minus capsula instructus 6 petala (4-9) liberia.

1. Flores hermaphroditi majores (2/3-6 poll. long) filamenta subulata **Phrygilanthus** Eichl

2. Flores dioici, rarius polygami v. hermaphroditi, minores (1/2-3 lin) filamenta crassa carnosa oblonga ... subtus tota petalis adnata **Phthirusa** Mart

3. Flores dioici minores (1-4 lin) filamenta filiformia subulata **Struthanthus** Mart

4. Flores hermaphroditi rare dioici minimi (½–1½ lin.)
filamenta filiformia subnuda – Flores solitarii
spicati, nuclei semina immensi. Oryctanthus Griseb.

III Semina albuminosa, filamenta absque articulatione in
connectivum continuata, antherae immobiles. Eadem Genera
Genera gerontogaea sub Loranthe auct. comprehensa

B. Inflorescentiae longibracteatae 3–alatae Neuwiedia A.Br. Australia

C. Inflorescentiae haud alatae endocarpio costis 8
circumdato saltem immissis instructo Atkinsonia F.Muell. Australia

II Viscoae

Perigonium simplex subcorollinum, phyllis saepius 3 (2–5)
Flores abortu dioici

Flores dioici aut ex diversis ramulis vel inflorescentiis
nunc ex eadem spica monoici 3 (4–2 raro–5) meri
Perigonium superum simplex subcorollinum; phylla libera raro
basi breviter connata 1– raro sub 2 serialia, praefloratione
imbricata, persistentia aut deciduа, plg. triangulari – ovata
carnosa – coriacea et nudica pressione marginata.

♂ F. Stamina phyllorum perig. numero, iis anteposita saepius
plus minus v. tota adnata, rarius libera; filamenta, ubi
~~adsunt~~ distincta, cylindrica connectivo dorso subarticulatim
adfixa aut saepius continua i. id transeuntia plg
brevissima, nunc nulla. Antherae aut biloculares,
loculis 2 – rarius sub 1– loculatis subrotundis,
introrsis per rimas poros ve obliquos apertae, aut
loculis confluentibus sub 1– locularibus rima unica
transversali dehiscentes, aut demique (ubi cum
phyllo conflatae sunt ita ut hoc ipsum intus facie
pollinifera videatur) multiloculatae, loculis per
poros apicales dehiscentibus. Pollinis
granula oblonga vel globosa triporata exine laevi
~~vel amorphoformia inerassata~~ vel subgranulata vel reticulata

calculate, Ovarii rudimentum inferum vel deni inferum
margine subinde annuliformi - incrassato, disco tectum
carnoso - lobato, lobis cum phyllis alternis. Flos flores
staminum aborta subinde nuttii fiunt

H. Q Staminum aborta vestigia, Ovarium ovoide
v. depresso - globosum raro oblongum, inferum, margine
superiore annuliformi - incrassatum, stylus solidum, origine
1 - lobulo, ovulo unico (raro 2 ? ex Kunth) ex fili
basilari erecto atropo - integumentis privato cum paries
tibus ovarii coalescente raphe annuliotibus 2 placentae
Lobum epigynum plus minus crassum lobatum. Stylus
erectus brevi - cylindricus vel conicus, stigmate obtuso
vel disciformi subcapitato. Fructus baccatus
mesocarpium pulposum e filis contextum quo humectato
in materiem viscosam confluentem. — Semen
endospermio copioso carnoso v. corneo, raro stipi
parce v. subnullo. Embryo axilis rectus
subinde minutus e endospermio amylo ferente,
cauliculo utplurimum ex endospermio ex certo
cotyledonibus 2 liberis plano - convexis applicatis
vel subdivergentibus, plumula rudimentaria.

Frutices semiparasitici - radices intra corticem ramis
nutritoris occultae (vesiculae nullae) rami - in plerique
oppositifolii ad nodos articulati - Folia opposita decussata
(raro alterna) petiolata - nunc ad squamas reducta —
Inflorescentiae spicatae, raro racemosae, nonnunquam flores
axillares & terminales solitarii; Floribus saepius in
rachcos foveas immersis, super bracteam nunc solitarius
nunc numerosis 1 - pluri - seriatis. Bracteae squamiformes,
in oppositifoliis in vaginulas connatae, bracteolae nullae
Flores minuti 1/2 - 1 1/2 lin. longi [corolla]

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Conspectus Generum

I Folia opposita internodia articulata

1. Flores dioici vel monoici 3(4-2) meri. Stamina petalis basi adnata, supreme libera, filamentis brevissimis, antheris bilocularibus rimis porisve 2 obliquis dehiscentibus. Flores spicati spicis articulatis, articulis [plemunque] multiflorus. Phoradendron Nutt.

2. Flores dioici raro monoici 3(4-2) meri. Stamina petalis prorsus adnata; antheris in petali medio sessili, loculis confluentibus 1-locularibus, per rimam transversam dehiscentes. Flores spicati spicis articulatis Dendrophthora Eichl

3. Flores dioici ♂ 3(4-5) meri ♀ 2-meri Stamina Dendrophthore. Flores solitarii axillares & terminales Arceuthobium Bieb

Gerontogaeae 1 Viscum L. Ginalloa Korth Nothoixos Oliv

II Folia opposita internodia continua

Flores dioici 4-meri. Stamina libera, filamentis distinctis, antheris bilocularibus longitrorsum birimosis. Cadrospermium parcum v. subnullum.

Hunc Tepeia Chan & Schl. Nov. Zeeland endrospermis affinis

III. Folia alterna (2/5) internodia continua

1. Flores dioici 3-meri, sepala in ♀ deciduo. Racemi in ♂ saepe ad 1 florem reducti, in ♀ subspiciformes. Folia frondosa Eremolepis Griseb

2. Flores in diversis spicis monoici 4 vel ♀ subdede 3-meri sepala in ♀ persistentia. Flores spicati Racheos foveas dense immersi. Folia frondosa Ixidium Eichl

3. Flores in eadem spica monoici, inferiores ♂ superiores ♀ 3-meri. Sepala in ♀ persistentia. Flores spicati haud immersi. Folia squamiformia, peltato-ovatae Cubrachion Hook f

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Phoradendron Nutt. Eichler Loranth. Nov. Acad. nov. Ser. p. 97

— — — filamenta brevissima, passim subnulla, cylindrica continuo in connectivum dilatata; antherae transverse ellipticae bilobulares lobulis s.b.-l. lorillatis subglobosis poro v. rimula latiuscula obliqua longitrorsum aperto. Pollen ellipticum v. subglobosum, subinde trivalvum et triporosum, exina laevi — — —

cataphylla = Niederblätter prophylla = Cotyledonen.

Euphylla Laubblätter

bracteae

F(oliis) spicae prophyllis (dextro et sinistro) latentibus minutis basi munitis

Inflorescentiae vel regulares spicas referunt. Rachis ex internodiis 1-plurib. articulatis constat, quorum infima saepe sterilis; articulus quisque basi vaginula capuliformi bidentata falcitur: vagina bracteali! F. flores (supraxillares!) in foveas axeos immersi obnoctali, nunquam terminales. Ad singulum articulum ab apice ad basin gradatim decrescunt (enascuntur et explicantur)

1. Typus inflorescentiae 2×2 flores bisseriales supra quamque bracteolam, impari regulo vaginae terminali (articulos floribus 4-seriatis). Fl. impar petalo impari deorsum, flores bisseriales petalo impari sursum spectante!

2. Typus infl. 2×3 (articulos floribus 6-seriatis) — In speciebus variis ubi series media florem imparem non attingit, hic petalum impare (et supra) deorsum spectantem exhibet; in speciebus pluribus series media lateralibus aequi longe imparem contigit petalo impari ut in lateralibus sursum spectante.

3. Typus infl. 2×5 2×7 2×9 (praesertim speciebus centrali et boreali Americanae) flores contigui, fl. impar petalo impari (nisi pressione detorso) sursum spectante

Flos impar primarius, ceteri accessorii

Distributio specierum p. 106. 7.

I Glaberrimae flores supra singulam bracteam 2-3 seriales

A Folia aciculiformia

B Folia lanceolata, palmati nervia (nervis subtus parum conspicuis)

1. Flores 2×2 seriali. Vaginae cataphyllares ad omnia internodia obvia solitarie sterilem

2. Flores 2×3 seriali

3 flores 2×2 seriati, vaginae cataphyllares nonnisi ad
infimum cujusvis rami internodium steriles.

4 flores 2×2 (rarius 2×3) seriati. Vaginae cataphyllares
ad omnia internodia 2–5, 1 basilaris sterilis subpersistens,
reliquae spicas ex axillis emittentes, deciduae

C. Folia frondosa penninervia (nervis subtus parum
conspicuis)

1. flores 2×2 seriati
2. flores 2×3 seriati

II Rami minus pubescentes, praecipue in spicis et partibus novellis
(raro glebre). Flores super singulam bracteam 4–9 seriati
Huc plerique species Mexici & Amer. bor. pertinent
Omnes flavedine distincta perforsae, lutece vel (in spicis) aurantiacae

p. 98. folia decussata, caulis ramique articulati; folia ramis ad squamas
redacta
cataphylla (Niederblätter) constanter ad ramorum bases inveniuntur
saepe minimi, vel rudimentarii, super latentes, prophylla (Colpodium
referentia). Secundum par cataphyllarum cum
prophyllis decussatum, ideo in rami media positum
et vaginam constituit. Non raro plures tales vaginae
sub regione cuphyllarum occurrunt

Vaginis hisce Rhondendron a Vireo differt, Virum
solum prophylla basilaria exhibet, sed vaginis caret
Rhododendri speciis paucae aphyllae vaginis etiam
carent. Dendrophon multa segmentis vaginis
destituta est — Arcuthobium nec prophylla nec
vaginas habet.

p. 99 Rhododendra pauca vaginis cataphyllantibus
ad geniculum internodia ornata sunt, ita ut folia
ipsa (cuphylla) distycha evadunt. Paucissimae vaginae
tales 2–5 invicem inter (Rhodorantho) genuinum superiorem
fertilem et radicem; Unde singula internodia plura organa
foliacea plurosque ramos gerunt; rarissima morphosis

This is certainly wrongly called a single internodium! But then, the internodia are articulate only at the leaves not at the vagina!

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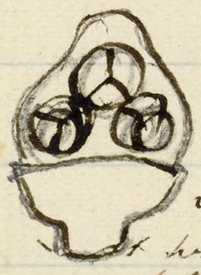
Rhoadendron tunaeforme (DC) Eichl. spicae androgynae minutae
1-articulatae, articulis 2 × 3 floris, flore impari apicali ♂
Raro articulus superior secundus accedit, flore 2 masculos gerens
Subinde flores masculi abortivi, ita ut spica 2 × 2 flora fœminea
Rhachis ovalis in apicem brevem producta, vagina brevis, obsolete ciliolata; cujus quam prophylla 2 triangulari-subulata minuta conspicuntur


1 male fl
2 fem fl
vagina broken
it shd ought to
both prophylla
exhibit are not
figured tab 32

This is the only species enumerated by Eichler which in the fem flowered inflorescence approaches our Axillaria (which has no prophylla) but it has nevertheless at least 4 flowers — ours only 2

Ph. robusta, Such I have from Cuba, Wright as Eichler N° 22
p. 107 × 120 belongs to B. 3 A most variable plant.

p. 19 ~~Calyx Loranthaceus (ex theoria nostra)~~

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Loranthaceae Mexicanae

cf Dec Prod IV. 277 seq.

for the most p. numbers see below Eichler.

p. 220 n. 26. Viscum brachystachyum DC.[1] Tampico – Real del Monte

281 35 V. verticillatum DC[2] Toluca

284 62 V. vaginatum HBK Cerro de Perote = Arceuthobium Eichler

291 42 Loranthus microphyllus HBK Cuernavaca.

292 50 L. interruptus HBK Acapulco

302 166 L. ramiflorus Mor. & Sess

167 L. calyculatus DC[3] Cuernavaca

168 L. Jurquinii DC = L. Americanus Jacq[4]. fide Lill: Mexico

310 182 L. Mexicanus Presl[5]

313 203 L. vegetus DC. Cuernavaca (L. venetus HBK)

315 216 L. spirostylis DC. Acapulco.

Loranthaceae Mexicanae

ex Eichler Fl. Brasil.

p. 25 Dendrophthora cuneifolia Oliv. Oaxaca etc.

26 D. macrantherus Eichl. San Pedro Nolano, Karwinsk.

D. americanus (Jacq.)[4] In Antillis & Mexico.

D. calyculatus (DC.)[3] Mexico

D. Schiedeanus (Cham & Schl.) Orizaba etc

D. Karwinskianus Schultz) Saltepec

27 D. Mexicanus Presl.[5].

70 Struthanthus cuneicola (Cham Schlecht) Eichl Mexico

S. chordoclados Oliv p. 134 S. Liebmanni Oliv "

S. ramiflorus Oliv : S. Deppeanus Cham & Schl.
: S. spirostylis DC.
& chordoclados Oliv
Lieben. Mex)

89 Dyctanthus glaberrimus Oliv

166 Phoradendron flavens (Sw) Eichl. Mexico ex Griseb.

120 Ph. rubrum (Sw) Griseb.

122 Ph. hexastichum (DC) Griseb.

134 m. Ph. velutinum DC.[2] An varietas ex Mexico

Ph tomentosum DC

Ph brachystachyum DC[1] : Ph. nervosum Oliv

Ph falcatum Hook (nec Cham & Schl) Ph crassifolium Oliv

Ph longifolium Jacq Ph ramulosum Oliv

Ph. Linifolium Nutt. Ph. corymbosum Eichl

Ph cupressinum Nutt Ph robustissimum Eichl

Ph cordifolium Nutt Ph pachyanthum Eichl

Ph obliquum Nutt Ph

Ph Reichenbachianum Seem over

Ph Bolleanum Seem

5666

Eichler
p. 134 m

Phor. dumbor Calif. Sexx

Phoradendron Californicum Nutt.
juniperinum Eng
Lanceolatum Gray
obtusatum Gray
villosum Nutt
flavescens Nutt

Phrygilanthus only in South America
Phthirusa spec. ~~America centrali et Mexico~~
~~Phoradendron~~ Brasilien, Am. centr. et insulae Antillarum
Struthanthus ex Am. centr. & Mexico. ex Eichl p. 134 K
S. dumiflorus Benth Pl. Hartw. p. 62
S. Hartwegi Benth " " "
S. Deppeanus Cham & Schl.
S. spicatus DC
S. Libanensi Oliv
S. Cassiopae folius Oliv
S. equisetoides Cham & Schl
S. chondroladus Oliv
S. cuneifer Oliv.
Dendrophthora Americanae Eichl. 134. l
D. glebeniana Oliv in Natur. Foren. Viden. Meddeldser Copenhagen. 1864 p. 170
D Grahami Oliv Loranthus Benth Pl. Hartw p 62
D dentata Oliv
D schiedeana Oliv.

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Kunth Syn Nov Gen. vol III

has only 4 mexican Loranthaceae

Loranthus venetus HBK vol III p. 78

L. microphyllus HBK. p. 81

L. interruptus HBK p. 82

Viscum vaginatum HBK III. p. 85

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de Candolle Prod IV p. 277 — 320

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Thor. Bolleanum Sieb. = Hb Hayn & Bun.
Shasta mountains = Drejera.
with U.S Expl. Exp.

Thor. Leibergii n.t. Jeffrey Rock
Asterth. or P. ponderosa Upper Columbia
with Expl Exp. 1185

5668

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Phthirusa Mart ap. Eichler
Loranth Brasil

Sect I. Euphthirusa Eichl

II Dendropemon

Loranthi sect. Dendropemon
Griseb. Alter

Dendropemon gen. Bloume

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